

IN THE CLAIMS

This listing of claims replaces all prior listings:

1. (Currently Amended) A wafer comprising:
alignment marks on an exposure surface, the alignment marks having edges for scattering inspection light for alignment during an exposure,
wherein,
the alignment mark is configured to have a plurality of dot pattern groups, each of the dot pattern groups being projections from the exposure surface and configured to have a plurality of dot patterns arrayed in a first predetermined direction, and
the plurality of dot pattern groups are arrayed in the first predetermined direction with [[an]] a first interval between the dot pattern groups, the first interval being wider than [[an]] a second interval between the dot patterns, and
the plurality of dot pattern groups are arrayed in a second predetermined direction perpendicular to the first predetermined direction with a third interval between adjacent dot pattern groups, the third interval being wider than an interval between the dot patterns.
2. (Original) The wafer according to claim 1, wherein the dot pattern is formed by performing a proximity exposure.
3. (Previously Presented) The wafer according to claim 1, wherein the dot pattern is a raised rectangular pattern.
4. (Original) The wafer according to claim 1, wherein the dot pattern formed in a plurality of rows in the predetermined direction.
5. (Original) The wafer according to claim 1, wherein the alignment marks are disposed at a plurality of portions in respective directions.

6. (Currently Amended) An exposure mask configured to have alignment marks on a surface, the alignment marks having edges for scattering inspection light for alignment:

wherein,

the alignment mark is configured to have a plurality of dot pattern groups, each of the dot pattern groups being configured to have a plurality of dot patterns arrayed in a first predetermined direction, ~~and~~

the plurality of dot pattern groups are arrayed in the first predetermined direction with ~~[[an]]~~ a first interval between the dot pattern groups, the first interval being wider than ~~[[an]]~~ a second interval between the dot patterns, and

the plurality of dot pattern groups are arrayed in a second predetermined direction perpendicular to the first predetermined direction with a third interval between adjacent dot pattern groups, the third interval being wider than the second interval between the dot patterns.

7. (Original) The exposure mask according to claim 6, wherein the dot pattern formed in a plurality of rows in the predetermined direction.

8. (Original) The exposure mask according to claim 6, wherein the alignment marks are disposed at a plurality of portions in respective directions.

9. (Currently Amended) A method for detecting an alignment mark, comprising the steps of:

radiating inspection light for alignment to a surface of wafer in such a way that the inspection light is incident on an alignment mark in a surface of the wafer and scattered therein before exposure with an exposure mask,

wherein,

the exposure mask has alignment marks, the alignment marks being configured to have a plurality of dot pattern groups, each of the dot pattern groups being configured to have a plurality of dot patterns arrayed in a first predetermined direction, and the plurality of dot pattern groups being arrayed in the first predetermined direction with ~~[[an]]~~ a first interval between the dot

pattern groups, the first interval being wider than [[an]] a second interval between the dot patterns,

the plurality of dot pattern groups are arrayed in a second predetermined direction perpendicular to the first predetermined direction with a third interval between adjacent dot pattern groups, the third interval being wider than an interval between the dot patterns, and

the alignment mark of the wafer has a same pattern as that of the dot pattern of the exposure mask.

10. (Previously Presented) The method for detecting an alignment mark according to claim 9,

wherein the inspection light for alignment is incident on the exposure mask and the wafer in an oblique direction.

11. (Previously Presented) The method for detecting an alignment mark according to claim 9,

wherein the inspection light is radiated onto the exposure surface from an oblique direction in such a way that a plane of incidence of the inspection light is parallel to the arrangement direction of the dot patterns.

12. (Previously Presented) The method for detecting an alignment mark according to claim 9, wherein the exposure is a proximity exposure.

13. (Previously Presented) The method for detecting an alignment mark according to claim 9,

wherein the detecting of scattered inspection light is performed by differentiation-processing of a signal strength along the arrangement direction of dot patterns.

14. (Previously Presented) The method for detecting an alignment mark according to claim 9,

wherein peaks of higher signal strength with stronger scattering of the inspection light are arranged periodically in the direction of arrayed dot pattern.

15. (Currently Amended) An exposure method comprising the steps of:
performing an alignment by causing scattering of inspection light for alignment at an alignment mark on a surface of an exposure mask, and
performing an exposure of a wafer via the exposure mask,
wherein the exposure mask is configured to have alignment marks, the alignment marks being configured to have a plurality of dot pattern groups, each of the dot pattern groups being configured to have a plurality of dot patterns arrayed in a first predetermined direction, and the plurality of dot pattern groups being arrayed in the first predetermined direction with [[an]] a first interval between the dot pattern groups, the first interval being wider than [[an]] a second interval between the dot patterns,

the plurality of dot pattern groups are arrayed in a second predetermined direction perpendicular to the first predetermined direction with a third interval between adjacent dot pattern groups, the third interval being wider than an interval between the dot patterns.

16. (Previously Presented) The exposure method according to claim 15,
wherein the inspection light for alignment is incident on the exposure mask and the wafer in an oblique direction.

17. (Previously Presented) The exposure method according to claim 15,
wherein the inspection light is radiated onto the exposure surface from an oblique direction in such a way that a plane of incidence of the inspection light is parallel to the arrangement direction of the dot patterns.

18. (Previously Presented) The exposure method according to claim 15, wherein the exposure is a proximity exposure.

19. (Previously Presented) The exposure method according to claim 15,

wherein the detecting of scattered inspection light is performed by differentiation-processing of a signal strength along the arrangement direction of dot patterns.]

20. (Previously Presented) The exposure method according to claim 15, wherein peaks of higher signal strength with stronger scattering of the inspection light are arranged periodically in the direction of arrayed dot pattern.

21. (New) The wafer according to claim 1, wherein each of the dot patterns comprises a slit on an upper surface.

22. (New) The exposure mask according to claim 6, wherein each of the dot patterns comprises a slit on an upper surface.

23. (New) The method for detecting an alignment mark according to claim 9, wherein each of the dot patterns comprises a slit on an upper surface.

24. (New) The exposure method according to claim 15, wherein each of the dot patterns comprises a slit on an upper surface.